

Chapter 3 Review  
p.182-183  
q. 1-9

Ch 2  
p.120-121  
1, 3-6, 8-13, 15-19

# Test Wednesday

Oct 12-7:51 AM

Section 2.1 - Expansion Form  
 $(x+7)(x-3) \Rightarrow x^2 + 7x - 3x - 21$   
 $x^2 + 4x - 21$   
 Section 2.2 - Factoring (common)  
 $27x^2 - 9x$   $9x(3x-1)$   
 Section 2.3 - Decomposition  
 $x^2 + 9x + 20$   $+9$   $+20$   $1$   $20$   
 Section 2.4 - Special Factoring  
 $49a^2 + 42a + 9 = 0$   
 $7a$   $3$   $7 \times 3 = 21$   
 $(7a+3)^2$   $(a^2-9)$   
 Steps Factoring  
 i) common factor  
 ii) perfect squares { difference of squares  
 iii) decomposition  
 iv) nonfactorable / guess formula

Oct 13-9:44 AM

$$x^2 - 2x - 35$$

$$x^2 - 7x + 5x - 35$$

$$(x-7)(x+5)$$

$$7, -5$$

$$\frac{5+7}{2} = \frac{12}{2} = 6$$

$$\frac{7-5}{2} = \frac{2}{2} = 1$$

Oct 13-10:19 AM

$$2x^2 + 7x + 3$$

$$2x^2 + 1x + 6x + 3$$

$$x(2x+1) + 3(2x+1)$$

$$(2x+1)(x+3)$$

$$s = -\frac{1}{2}, t = -3$$

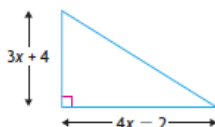
Oct 13-10:32 AM

## MCF 3M Test Preparation Ch 2 & 3

### 9. Factor.

- a)  $x^2 + 2x - 15$       c)  $x^2 - 12x + 35$   
 b)  $n^2 - 8n + 12$       d)  $2a^2 - 2a - 24$

3. Write a simplified expression to represent the area of the triangle shown.



Oct 14-10:45 AM

MCF 3M Test Preparation Ch 2 & 3

9. Factor.

a)  $x^2 + 2x - 15$       c)  $x^2 - 12x + 35$   
 b)  $n^2 - 8n + 12$       d)  $2a^2 - 2a - 24$

$x^2 + 5x - 3x - 15$   
 $x(x+5) - 3(x+5)$   
 $(x+5)(x-3)$

$2a^2 - 2a - 24$   
 $2(a^2 - a - 12)$   
 $2(a^2 + 3a - 4a - 12)$   
 $2(a(a+3) - 4(a+3))$   
 $2(a+3)(a-4)$

3. Write a simplified expression to represent the area of the triangle shown.

$A = \frac{1}{2}bh$   
 $A = \frac{1}{2}(4x-2)(3x+4)$   
 $A = (2x-1)(3x+4)$   
 $A = 6x^2 + 5x - 4$

Oct 14-10:45 AM

$$\begin{array}{r}
 x^2 - 12x + 35 \\
 \hline
 x^2 - 7x - 5x + 35 \\
 x(x-7) - 5(x-7) \\
 (x-7)(x-5)
 \end{array}$$

Handwritten work for factoring  $x^2 - 12x + 35$  using the AC method. The numbers -12 and +35 are written above the vertical line. The numbers -7 and -5 are written below the vertical line. The final factored form is  $(x-7)(x-5)$ .

Oct 3-8:36 AM

5. Factor.

a)  $8x^2 + 10x + 3$       d)  $15x^2 - 4x - 4$

13. Factor.

a)  $6x^2 + 11xy + 3y^2$       c)  $8x^2 - 14xy + 3y^2$

Oct 11-7:35 AM

5. Factor.

a)  $8x^2 + 10x + 3$       d)  $15x^2 - 4x - 4$

Handwritten work for factoring  $8x^2 + 10x + 3$  using the AC method. The numbers 8, 10, and 3 are written above the vertical line. The numbers 6 and 4 are written below the vertical line. The final factored form is  $(2x+1)(4x+3)$ .

13. Factor.

a)  $6x^2 + 11xy + 3y^2$       c)  $8x^2 - 14xy + 3y^2$

Handwritten work for factoring  $6x^2 + 11xy + 3y^2$  using the AC method. The numbers 6, 11, and 3 are written above the vertical line. The numbers 9 and 2 are written below the vertical line. The final factored form is  $(2x+3y)(3x+y)$ .

Oct 11-7:35 AM

7. A field-hockey ball must stay below waist height, approximately 1 m, when shot; otherwise, it is a dangerous ball. Sally hits the ball. The function  $h(t) = -5t^2 + 10t$ , where  $h(t)$  is in metres and  $t$  is in seconds, models the height of the ball. Has she shot a dangerous ball? Explain.

Oct 11-7:38 AM

7. A field-hockey ball must stay below waist height, approximately 1 m, when shot; otherwise, it is a dangerous ball. Sally hits the ball. The function  $h(t) = -5t^2 + 10t$ , where  $h(t)$  is in metres and  $t$  is in seconds, models the height of the ball. Has she shot a dangerous ball? Explain.

Handwritten work for solving the problem:

$$\begin{aligned}
 h(t) &= -5t^2 + 10t \\
 1 &= -5t^2 + 10t \\
 0 &= -5t^2 + 10t - 1 \\
 \text{TI 83 solve for roots} \\
 h(t) &= -5t^2 + 10t \\
 h(t) &= -5t(t-2) \\
 0 &= -5t & 0 &= t-2 \\
 t=0 & & t &= 2 \\
 \frac{5t}{2} &= \frac{0+2}{2} = \frac{2}{2} = 1
 \end{aligned}$$

Handwritten work for evaluating the function:

$$\begin{aligned}
 h(1) &= -5(1)^2 + 10(1) \\
 h(2) &= -5(2)^2 + 10(2) \\
 h(3) &= -5(3)^2 + 10(3) \\
 h(4) &= -5(4)^2 + 10(4) \\
 h(5) &= -5(5)^2 + 10(5)
 \end{aligned}$$

Handwritten work for evaluating the function at  $t=1$  and  $t=2$ :

$$\begin{aligned}
 h(1) &= -5(1)^2 + 10(1) = -5 + 10 = 5 \\
 h(2) &= -5(2)^2 + 10(2) = -20 + 20 = 0
 \end{aligned}$$

Oct 11-7:38 AM

Handwritten work for solving the problem:

$$\begin{aligned}
 h(t) &= -5t^2 + 10t \\
 h(t) &= -5t(t-2) \\
 0 &= -5t & 0 &= t-2 \\
 t=0 & & t &= 2 \\
 \frac{5t}{2} &= \frac{0+2}{2} = \frac{2}{2} = 1
 \end{aligned}$$

Handwritten work for evaluating the function:

$$\begin{aligned}
 h(1) &= -5(1)^2 + 10(1) \\
 h(2) &= -5(2)^2 + 10(2) \\
 h(3) &= -5(3)^2 + 10(3) \\
 h(4) &= -5(4)^2 + 10(4) \\
 h(5) &= -5(5)^2 + 10(5)
 \end{aligned}$$

Handwritten work for evaluating the function at  $t=1$  and  $t=2$ :

$$\begin{aligned}
 h(1) &= -5(1)^2 + 10(1) = -5 + 10 = 5 \\
 h(2) &= -5(2)^2 + 10(2) = -20 + 20 = 0
 \end{aligned}$$

Oct 8-7:28 AM